

WHAT IS CLAIMED IS:

1. A failure detection method for a matrix sensor network comprising steps of:

connecting a plurality of pressure sensitive sensors to row lines and column lines in a matrix, each sensor changing a resistance thereof according to a pressure applied thereto, characterized by:

connecting a monitoring device to at least one of ends of two row lines and ends of two column lines to form a series circuit;

applying a voltage to the series circuit; and

checking a voltage of the series circuit to detect failure of the matrix sensor network.

2. A failure detection method for a matrix sensor network as in claim 1, further comprising steps of:

connecting one end of the series circuit to a pull-up resistor and grounding the other end;

applying the voltage to the series circuit through the pull-up resistor; and

checking the voltage across the monitoring device.

3. A failure detection method for a matrix sensor network as in claim 1, further comprising a step of:

applying a same voltage to all row lines and column lines other than the two row lines and the two column lines of the series circuit.

4. A failure detection method for a matrix sensor network as in claim 1, wherein the monitoring device is one of a resistor and

a diode.

5. A failure detection method as in claim 1, further comprising a step of:

5 selecting in sequence at least one of two row lines and two column lines to change the series circuit to which the voltage is applied for failure detection.

6. A failure detection apparatus comprising:

10 a matrix sensor network having row lines and column lines, and a plurality of pressure sensitive sensors connected to the row lines and the column lines in a matrix, each sensor changing electric characteristics thereof according to a pressure applied;

15 a monitoring device connected to ends of at least one of two row lines and two column lines to form a series circuit; and

a voltage source connected to the series circuit to detect a failure based on variations in output of the monitoring device.

20 7. A failure detection apparatus as in claim 6, further comprising:

a pull-up resistor connected to one end of the series circuit, wherein the other end of the series circuit is grounded.

25 8. A failure detection apparatus as in claim 6, further comprising:

a buffer circuit for applying a same voltage to all row lines and column lines other than the two row lines and the two column

lines of the series circuit.

9. A failure detection apparatus as in claim 6, wherein the monitoring device is one of a resistor and a diode.

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10. A failure detection apparatus as in claim 6, further comprising:

          multiplexers connected to the row lines and column lines for selecting in sequence the at least one of two row lines and two column lines to change the series circuit to which the voltage source is connected for failure detection.

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